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Reply to Telephone Conversation of January 8, 2008

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Amend claims 1, 4, 6, 20, 21, 22 24, 40, and 42 as follows.

Listing of Claims:

- 1 **1. (Currently amended)** A work-management method
- 2 comprising:
- 3 for a future point in time, determining a probability of availability
- 4 of each resource of a plurality of resources at said future point in time, to
- 5 obtain the probabilities of availability of the plurality of the resources,
- 6 comprising
- 7 determining an amount of time that the a resource has already
- 8 spent servicing a task,
- 9 determining a first probability of completion of the servicing of
- 10 the task by the resource by the future point in time without consideration of
- 11 the amount of time that the resource has already spent servicing the task,
- 12 determining a second probability that the resource has not
- 13 completed servicing the task within the amount of time that the resource
- 14 has already spent servicing the task, and
- 15 determining from the first and the second probability a third
- 16 probability of completion of the servicing of the task by the resource by the
- 17 future point in time considering the amount of time that the resource has
- 18 already spent servicing the task;
- 19 combining together the third determined ~~probabilities~~ probability
- 20 of availability of each resource of the plurality of resources to obtain a
- 21 number that is a result of the combining; and
- 22 using the number to schedule new tasks for the resources for
- 23 the future point in time.

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1 2. **(Previously presented)** The method of claim 1 wherein:
2 using the number to schedule new tasks comprises
3 scheduling for the future point in time no more than the number
4 of the new tasks to become available for servicing by the plurality of the
5 resources.

1 3. **(Previously presented)** The method of claim 2 wherein:
2 combining together the determined probabilities comprises
3 summing the probabilities to obtain the number.

1 4. **(Currently amended)** A work-management method
2 comprising:
3 for a future point in time, determining a probability of availability
4 of each resource of a plurality of resources at said future point in time, to
5 obtain the probabilities of availability of the plurality of the resources,
6 comprising
7 determining an amount of time t that each resource of the
8 plurality of resources has been servicing a task by now,
9 for each of the resources, determining a probability $F(t+h)$ of
10 the resource servicing its task to completion within a total amount of time
11 $t+h$, where h is ~~an amount of time~~ a selected time horizon,
12 for each of the resources, determining a probability $F(t)$ of the
13 resource completing servicing its task by now, and
14 for each of the resources, determining a probability P that the
15 resource will complete servicing its task at the future point in time the
16 amount of time h from now as $\frac{F(t+h) - F(t)}{1 - F(t)}$;
17 combining together the determined probabilities of availability of
18 the plurality of resources to obtain a number that is a result of the
19 combining; and

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20 using the number to schedule new tasks for the resources for
21 the future point in time.

1 5. **(Previously presented)** The method of claim 4 in a call
2 center wherein:
3 the new tasks comprise calls; and
4 using the number to schedule new tasks comprises
5 in response to P , determining whether or not to initiate or
6 cancel an outbound call.

1 6. **(Currently amended)** A work-management method
2 comprising:
3 determining an amount of time t that a resource has been
4 servicing a task by now;
5 determining a probability $F(t+h)$ of the resource servicing the
6 task to completion within a total amount of time $t+h$, where h is ~~an amount~~
7 of time; a selected time horizon;
8 determining a probability $F(t)$ of the resource completing
9 servicing the task by now;
10 determining a probability P that the resource will complete
11 servicing the task within the amount of time h from now as $\frac{F(t+h) - F(t)}{1 - F(t)}$;
12 and
13 in response to P , scheduling another task for servicing.

1 7. **(Original)** The method of claim 6 wherein:
2 scheduling comprises
3 in response to P , determining whether or not to initiate said
4 another task.

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1 8. **(Previously presented)** The method of claim 6 in a call
2 center wherein:
3 the new tasks comprise calls; and
4 scheduling comprises
5 in response to P , determining whether or not to initiate an
6 outbound call.

1 9. **(Original)** The method of claim 6 further comprising:
2 performing the determining steps for a plurality of resources,
3 and
4 determining a number of the resources that will likely have
5 completed servicing their respective tasks within the amount of time h
6 from now as a sum of the probabilities P determined for individual ones of
7 the plurality of resources; wherein
8 scheduling comprises
9 in response to determining the number of the resources,
10 scheduling new tasks for servicing.

1 10. **(Original)** The method of claim 9 wherein:
2 scheduling tasks for servicing comprises scheduling no more
3 than the number of the tasks for servicing.

1 11. **(Original)** The method of claim 6 wherein:
2 determining a probability $F(t+h)$ comprises
3 obtaining historical task-completion statistics, and
4 from the obtained statistics determining the probability $F(t+h)$;
5 and
6 determining a probability $F(t)$ comprises
7 from the obtained statistics determining the probability $F(t)$.

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1 12. **(Original)** The method of claim 11 wherein:
2 obtaining historical task-completion statistics comprises
3 obtaining a mean and a variance of time historically spent by
4 resources on servicing tasks to completion.

1 13. **(Original)** The method of claim 6 wherein:
2 determining a probability $F(t+h)$ comprises
3 obtaining historical task-completion statistics,
4 fitting the task-completion statistics into a lifetime closed-form
5 cumulative-probability distribution to determine parameters of the
6 distribution, and
7 evaluating the distribution with the determined parameters and
8 the total amount of time $t+h$ to obtain $F(t+h)$; and
9 determining a probability $F(t)$ comprises
10 evaluating the distribution with the determined parameters and
11 the amount of time t to obtain $F(t)$.

1 14. **(Original)** The method of claim 13 wherein:
2 obtaining historical task-completion statistics comprises
3 obtaining a mean and a variance of time historically spent by
4 resources on servicing tasks to completion;
5 the cumulative-probability distribution F comprises a Weibull
6 distribution; and
7 the parameters comprise a dispersion parameter and a
8 parameter of central tendency.

1 15. **(Original)** The method of claim 6 wherein:
2 determining an amount of time t comprises
3 determining the amount of time t that the resource has been
4 servicing a task of one of a plurality of different types of tasks; and

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5 determining historical task-completion statistics comprises
6 determining the historical task-completion statistics for the one
7 type of tasks.

1 16. **(Original)** The method of claim 6 wherein:
2 scheduling another task comprises
3 in response to P initiating preparation of a task that may require
4 servicing by an agent at a later time.

1 17. **(Original)** The method of claim 6 wherein:
2 determining a probability $F(t+h)$ comprises
3 obtaining a historical histogram for task completion, and
4 evaluating a cumulative said probability with the obtained
5 histogram for the total amount of time $t+h$ to obtain $F(t+h)$; and
6 determining a probability $F(t)$ comprises
7 evaluating the cumulative probability with the obtained
8 histogram for the amount of time t to obtain $F(t)$.

1 18. **(Original)** The method of claim 6 wherein:
2 scheduling comprises
3 in response to P , canceling preparation of a task that could
4 require servicing by a resource.

1 19. **(Canceled)**

1 20. **(Currently amended)** A computer-readable medium
2 containing instructions which, when executed in a computer, cause the
3 computer to perform the steps of:
4 for a future point in time, determining a probability of availability
5 of each resource of a plurality of resources at said future point in time, to

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6 obtain the probabilities of availability of the plurality of the resources,
7 comprising
8 determining an amount of time that ~~the a~~ resource has already
9 spent servicing a task,
10 determining a first probability of completion of the servicing of
11 the task by the resource by the future point in time without consideration of
12 the amount of time that the resource has already spent servicing the task,
13 determining a second probability that the resource has not
14 completed servicing the task within the amount of time that the resource
15 has already spent servicing the task, and
16 determining from the first and the second probability a third
17 probability of completion of the servicing of the task by the resource by the
18 future point in time considering the amount of time that the resource has
19 already spent servicing the task;
20 combining together the third determined ~~probabilities~~probability
21 of availability of each resource of the plurality of resources to obtain a
22 number that is a result of the combining; and
23 using the number to schedule new tasks for the resources for
24 the future point in time.

1 21. (Currently amended) A work-management apparatus
2 comprising:
3 a storage medium for storing instructions, and
4 a processor for executing the instructions, the medium and the
5 processor together comprising:
6 means for determining, for a future point in time, a probability of
7 availability of each resource of a plurality of resources at said future point
8 in time, to obtain the probabilities of availability of the plurality of the
9 resources, including

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10 determining an amount of time that ~~the a~~ resource has already
11 spent servicing a task,
12 determining a first probability of completion of the servicing of
13 the task by the resource by the future point in time without consideration of
14 the amount of time that the resource has already spent servicing the task,
15 determining a second probability that the resource has not
16 completed servicing the task within the amount of time that the resource
17 has already spent servicing the task, and
18 determining from the first and the second probability a third
19 probability of completion of the servicing of the task by the resource by the
20 future point in time considering the amount of time that the resource has
21 already spent servicing the task;
22 means cooperative with the determining means for combining
23 together the third ~~probabilities~~ probability of availability of each resource of
24 the plurality of resources to obtain a number that is a result of the
25 combining; and
26 means cooperative with the means for combining the
27 determined probabilities, for scheduling no more than the obtained
28 number of new tasks to be serviced by the plurality of the resources at the
29 future point in time.

1 **22. (Currently amended)** A work-management apparatus
2 comprising:
3 a storage medium for storing instructions, and
4 a processor for executing the instructions, the medium and the
5 processor together comprising:
6 means for determining an amount of time t that a resource has
7 been servicing a task by now;
8 means cooperative with the time-determining means for
9 determining a probability $F(t+h)$ of the resource servicing the task to

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10 completion within a total amount of time $t+h$, where h is ~~an amount of~~
11 ~~time;~~ a selected time horizon;
12 means cooperative with the time-determining means for
13 determining a probability $F(t)$ of the resource completing servicing the task
14 by now;
15 means cooperative with both of the probability-determining
16 means for determining a probability P that the resource will complete
17 servicing the task within the amount of time h from now as $\frac{F(t+h) - F(t)}{1 - F(t)}$;
18 and
19 means cooperative with the P -determining means and
20 responsive to P for scheduling another task for servicing.

1 23. **(Previously presented)** The apparatus of claim 21
2 wherein:
3 the means for combining together the determined probabilities
4 comprise
5 means for summing the probabilities to obtain the number.

1 24. **(Currently amended)** A work-management apparatus
2 comprising:
3 a storage medium for storing instructions, and
4 a processor for executing the instructions, the medium and the
5 processor together comprising:
6 means for determining, for a future point in time, a probability of
7 availability of each resource of a plurality of resources at said future point
8 in time, to obtain the probabilities of availability of the plurality of the
9 resources;

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10 means for determining, for each resource of the plurality of
11 resources, an amount of time t that the resource has been servicing a task
12 by now,

13 means for determining, for each resource of the plurality of
14 resources, a probability $F(t+h)$ of the resource servicing its task to
15 completion within a total amount of time $t+h$, where h is ~~an amount of time,~~
16 a selected time horizon.

17 means for determining, for each resource of the plurality of
18 resources, a probability $F(t)$ of the resource completing servicing its task
19 by now, and

20 means for determining, for each resource of the plurality of
21 resources, a probability P that the resource will complete servicing its task
22 at the future point in time the amount of time h from now as

23
$$\frac{F(t+h) - F(t)}{1 - F(t)};$$

24 means cooperative with the determining means for combining
25 together the probabilities of availability of the plurality of resources to
26 obtain a number that is a result of the combining; and

27 means cooperative with the means for combining the
28 determined probabilities, for scheduling no more than the obtained
29 number of new tasks to be serviced by the plurality of the resources at the
30 future point in time.

1 25. (Previously presented) The apparatus of claim 21 in a
2 call center wherein:

3 the new tasks comprise calls; and

4 the means for scheduling comprise

5 means responsive to P , for determining whether or not to
6 initiate or cancel an outbound call.

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1 26. (Previously presented) The apparatus of claim 22
2 wherein:
3 the means for scheduling comprise
4 means responsive to P , for determining whether or not to
5 initiate said another task.

1 27. (Previously presented) The apparatus of claim 22 in a
2 call center wherein:
3 the new tasks comprise calls; and
4 the means for scheduling comprise
5 means responsive to P , for determining whether or not to
6 initiate an outbound call.

1 28. (Previously presented) The apparatus of claim 22
2 wherein:
3 the means for determining an amount of time t comprise
4 means for determining the amount of time t for each of a
5 plurality of resources;
6 the means for determining a probability $F(t+h)$ comprise
7 means for determining the probability $F(t+h)$ for each of the
8 plurality of resources;
9 the means for determining a probability $F(t)$ comprise
10 means for determining the probability $F(t)$ for each of the
11 plurality of resources, and
12 means for determining a number of the plurality of resources
13 that will likely have completed servicing their respective tasks within the
14 amount of time h from now as a sum of the probabilities P determined for
15 individual ones of the plurality of resources; and
16 the means for scheduling comprise

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17 means responsive to determining the number of the resources,
18 for scheduling new tasks for servicing.

1 29. (Previously presented) The apparatus of claim 28
2 wherein:
3 the means for scheduling comprise
4 means for scheduling no more than the number of the tasks for
5 servicing.

1 30. (Previously presented) The apparatus of claim 22
2 wherein:
3 the means for determining a probability $F(t+h)$ comprise
4 means for obtaining historical task-completion statistics, and
5 means for determining the probability $F(t+h)$ from the obtained
6 statistics; and
7 the means for determining a probability $F(t)$ comprise
8 means for determining the probability $F(t)$ from the obtained
9 statistics.

1 31. (Previously presented) The apparatus of claim 30
2 wherein:
3 the means for obtaining historical task-completion statistics
4 comprise
5 means for obtaining a mean and a variance of time historically
6 spent by resources on servicing tasks to completion.

1 32. (Previously presented) The apparatus of claim 22
2 wherein:
3 the means for determining a probability $F(t+h)$ comprise
4 means for obtaining historical task-completion statistics,

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5 means for fitting the task-completion statistics into a lifetime
6 closed-form cumulative-probability distribution to determine parameters of
7 the distribution, and
8 means for evaluating the distribution with the determined
9 parameters and the total amount of time $t+h$ to obtain $F(t+h)$; and
10 the means for determining a probability $F(t)$ comprise
11 means for evaluating the distribution with the determined
12 parameters and the amount of time t to obtain $F(t)$.

1 33. (Previously presented) The apparatus of claim 32
2 wherein:
3 the means for obtaining historical task-completion statistics
4 comprise
5 means for obtaining a mean and a variance of time historically
6 spent by resources on servicing tasks to completion;
7 the cumulative-probability distribution F comprises a Weibull
8 distribution; and
9 the parameters comprise a dispersion parameter and a
10 parameter of central tendency.

1 34. (Previously presented) The apparatus of claim 22
2 wherein:
3 the means for determining an amount of time t comprise
4 means for determining the amount of time t that the resource
5 has been servicing a task of one of a plurality of different types of tasks;
6 and
7 the means for determining historical task-completion statistics
8 comprise
9 means for determining the historical task-completion statistics
10 for the one type of tasks.

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1 35. (Previously presented) The apparatus of claim 22
2 wherein:
3 the means for scheduling another task comprise
4 means responsive to P for initiating preparation of a task that
5 may require servicing by an agent at a later time.

1 36. (Previously presented) The apparatus of claim 22
2 wherein:
3 the means for determining a probability $F(t+h)$ comprise
4 means for obtaining a historical histogram for task completion,
5 and
6 means for evaluating a cumulative said probability with the
7 obtained histogram for the total amount of time $t+h$ to obtain $F(t+h)$; and
8 the means for determining a probability $F(t)$ comprise
9 means for evaluating the cumulative probability with the
10 obtained histogram for the amount of time t to obtain $F(t)$.

1 37. (Previously presented) The apparatus of claim 22
2 wherein:
3 the means for scheduling comprise
4 means responsive to P , for canceling preparation of a task that
5 could require servicing by a resource.

1 38. (Previously presented) The medium of claim 20 wherein:
2 using the number to schedule new tasks comprises
3 scheduling for the future point in time no more than the number
4 of the new tasks to become available for servicing by the plurality of the
5 resources.

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1 **39. (Previously presented)** The medium of claim 38 wherein:
2 combining together the determined probabilities comprises
3 summing the probabilities to obtain the number.

1 **40. (Currently amended)** A computer-readable medium
2 containing instructions which, when executed in a computer, cause the
3 computer to perform the steps of:
4 for a future point in time, determining a probability of availability
5 of each resource of a plurality of resources at said future point in time, to
6 obtain the probabilities of availability of the plurality of the resources,
7 comprising
8 for each resource of the plurality of resources, determining an
9 amount of time t that the resource has been servicing a task by now,
10 for each resource of the plurality of resources, determining a
11 probability $F(t+h)$ of the resource servicing its task to completion within a
12 total amount of time $t+h$, where h is ~~an amount of time~~, a selected time
13 horizon,
14 for each resource of the plurality of resources, determining a
15 probability $F(t)$ of the resource completing servicing its task by now, and
16 for each resource of the plurality of resources, determining a
17 probability P that the resource will complete servicing its task at the future
18 point in time the amount of time h from now as $\frac{F(t+h) - F(t)}{1 - F(t)}$;
19 combining together the determined probabilities of availability of
20 the plurality of resources to obtain a number that is a result of the
21 combining; and
22 using the number to schedule new tasks for the resources for
23 the future point in time.

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1 **41. (Previously presented)** The method of claim 40 for a call
2 center wherein:
3 the new tasks comprise calls; and
4 using the number to schedule new tasks comprises
5 in response to P , determining whether or not to initiate or
6 cancel an outbound call.

1 **42. (Currently amended)** A computer-readable medium
2 containing instructions which, when executed in a computer, cause the
3 computer to perform the steps of:
4 determining an amount of time t that a resource has been
5 servicing a task by now;
6 determining a probability $F(t+h)$ of the resource servicing the
7 task to completion within a total amount of time $t+h$, where h is an amount
8 of time; a selected time horizon;
9 determining a probability $F(t)$ of the resource completing
10 servicing the task by now;
11 determining a probability P that the resource will complete
12 servicing the task within the amount of time h from now as $\frac{F(t+h) - F(t)}{1 - F(t)}$;
13 and
14 in response to P , scheduling another task for servicing.

1 **43. (Previously presented)** The method of claim 42 wherein:
2 scheduling comprises
3 in response to P , determining whether or not to initiate said
4 another task.

1 **44. (Previously presented)** The medium of claim 42 for a call
2 center wherein:

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3 the new tasks comprise calls; and
4 scheduling comprises
5 in response to P , determining whether or not to initiate an
6 outbound call.

1 45. (Previously presented) The medium of claim 42 further
2 comprising instructions which, when executed in the computer, cause the
3 computer to perform the steps of:

4 performing the determining steps for a plurality of resources,
5 and

6 determining a number of the resources that will likely have
7 completed servicing their respective tasks within the amount of time h
8 from now as a sum of the probabilities P determined for individual ones of
9 the plurality of resources; wherein

10 scheduling comprises

11 in response to determining the number of the resources,
12 scheduling new tasks for servicing.

1 46. (Previously presented) The medium of claim 45 wherein:
2 scheduling tasks for servicing comprises scheduling no more
3 than the number of the tasks for servicing.

1 47. (Previously presented) The medium of claim 42 wherein:
2 determining a probability $F(t+h)$ comprises
3 obtaining historical task-completion statistics, and
4 from the obtained statistics determining the probability $F(t+h)$;
5 and

6 determining a probability $F(t)$ comprises
7 from the obtained statistics determining the probability $F(t)$.

1 48. (Previously presented) The medium of claim 47 wherein:

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Reply to Office Action of September 29, 2005

**RESPONSE UNDER 37 C.F.R. 1.116 – EXPEDITED
PROCEDURE – EXAMINING GROUP No.: 2195**

2 obtaining historical task-completion statistics comprises
3 obtaining a mean and a variance of time historically spent by
4 resources on servicing tasks to completion.

1 49. **(Previously presented)** The medium of claim 42 wherein:
2 determining a probability $F(t+h)$ comprises
3 obtaining historical task-completion statistics,
4 fitting the task-completion statistics into a lifetime closed-form
5 cumulative-probability distribution to determine parameters of the
6 distribution, and
7 evaluating the distribution with the determined parameters and
8 the total amount of time $t+h$ to obtain $F(t+h)$; and
9 determining a probability $F(t)$ comprises
10 evaluating the distribution with the determined parameters and
11 the amount of time t to obtain $F(t)$.

1 50. **(Previously presented)** The medium of claim 49 wherein:
2 obtaining historical task-completion statistics comprises
3 obtaining a mean and a variance of time historically spent by
4 resources on servicing tasks to completion;
5 the cumulative-probability distribution F comprises a Weibull
6 distribution; and
7 the parameters comprise a dispersion parameter and a
8 parameter of central tendency.

1 51. **(Previously presented)** The method of claim 42 wherein:
2 determining an amount of time t comprises
3 determining the amount of time t that the resource has been
4 servicing a task of one of a plurality of different types of tasks; and

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5 determining historical task-completion statistics comprises
6 determining the historical task-completion statistics for the one
7 type of tasks.

1 52. **(Previously presented)** The medium of claim 42 wherein:
2 scheduling another task comprises
3 in response to P initiating preparation of a task that may require
4 servicing by an agent at a later time.

1 53. **(Previously presented)** The medium of claim 42 wherein:
2 determining a probability $F(t+h)$ comprises
3 obtaining a historical histogram for task completion, and
4 evaluating a cumulative said probability with the obtained
5 histogram for the total amount of time $t+h$ to obtain $F(t+h)$; and
6 determining a probability $F(t)$ comprises
7 evaluating the cumulative probability with the obtained
8 histogram for the amount of time t to obtain $F(t)$.

1 54. **(Previously presented)** The medium of claim 42 wherein:
2 scheduling comprises
3 in response to P , canceling preparation of a task that could require
4 servicing by a resource.